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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/795,982

03/10/2004

Ji-ha Lee

46801

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1609 7590 07/10/2007
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EXAMINER

RAMAKRISHNAIAH, MELUR

ART UNIT

PAPER NUMBER

2614

MAIL DATE

DELIVERY MODE

07/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/795,982

Applicant(s)

LEE ET AL.

Examiner

Melur Ramakrishnaiah

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 6, 7 and 12 is/are rejected.
- 7) ☐ Claim(s) 2-5 and 8-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9-23-2004</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarkar et al. (US PAT: 6,842,624, filed 8-29-2001, hereinafter Sarkar) in view of Parr et al. (US PAT: 5,513,221, hereinafter Parr).

Regarding claim 1, Sarkar discloses a base station apparatus for estimating a velocity of a mobile station in a mobile station communication system, comprising: a velocity estimator in (218, fig. 2) for detecting the power spectrum value of the channel (fig. 2, col. 8 lines 34-63).

Sarkar differs from claim 1 in that he does not specifically teach: a channel estimator for receiving a signal on a radio channel from the mobile station and performing channel estimation, providing the channel estimator with a channel estimation coefficient for use during channel estimation according to a Doppler shift frequency value of power from the mobile station when the velocity of the mobile unit is unchanged.

However, Parr discloses Doppler bandwidth dependent estimation of a communication channel which teaches: a channel estimator for receiving a signal on a radio channel from the mobile station and performing channel estimation, providing the channel estimator with a channel estimation coefficient for use during channel

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estimation according to a Doppler shift frequency value of power from the mobile station when the velocity of the mobile unit is unchanged (col. 2 lines 44-51; col. 3 lines 20-46; col. 8 lines 33-56).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Sarkar's system to provide for the following: a channel estimator for receiving a signal on a radio channel from the mobile station and performing channel estimation, providing the channel estimator with a channel estimation coefficient for use during channel estimation according to a Doppler shift frequency value of power from the mobile station when the velocity of the mobile unit is unchanged as this arrangement would facilitate to realize more accurate power control of mobile station by using estimated channel characteristics, thus increasing the throughput of the system by reducing interference in the mobile communication system.

Claim 7 is rejected on the same basis as claim 1.

3. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarkar in view of Parr as applied to claims 1 and 7 above, and further in view of Thayer (US PAT: 6,006,245).

The combination differs from claims 6 and 12 in that it does not teach: velocity estimator performs calculation on only a frequency index for each of a predetermined number of frequency bands using discrete Fourier transform (DFT).

However, Parr teaches application of DFT for velocity estimation (col. 2 lines 9-19).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for the following: velocity estimator performs calculation on only a frequency index for each of a predetermined number of frequency bands using discrete Fourier transform (DFT) as this arrangement would provide another well known technique for calculating velocity as taught by Parr.

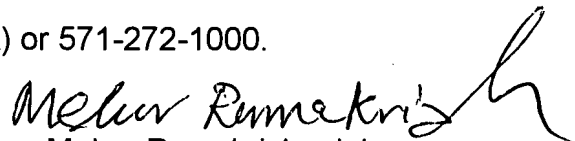
4. Claims 2-5, 8-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melur Ramakrishnaiah whose telephone number is (571)272-8098. The examiner can normally be reached on 9 Hr schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Melur Ramakrishnaiah
Primary Examiner
Art Unit 2614